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MAY 05 2008

PATENT

Atty Docket No.: 10004571-1

App. Ser. No.: 09/734,996

**IN THE CLAIMS:**

*Please find a listing of the claims below, with the statuses of the claims shown in parentheses. This listing will replace all prior versions, and listings, of claims in the present application.*

1. (Currently Amended) A streaming media server for providing media content in a plurality of media streams comprising:

a detector for identifying an event in the media content and generating an event detection signal;

a module for receiving the event detection signal and generating a structural point detection signal in response to determining, based on configuration information, that the event detection signal indicates that the event is a structural point having significance to the media content;

a cue generator for receiving the structural point detection signal an event-detected signal and the configuration information and based thereon for generating a private cue having a predefined structure, wherein the private cue is configured to be used by a stream processing application (SPA) of only specific affiliates to receive information concerning an event associated with the media content and, wherein the private cue cannot be is not interpreted by a third party other than the specific affiliates;

a cue handling mechanism for embedding the private cue into one of the plurality of media streams with the media content to provide precise time synchronization for the processing of the one of the plurality of media streams by the SPA; and

**PATENT**

Atty Docket No.: 10004571-1  
App. Ser. No.: 09/734,996

a network interface for transmitting the embedded private cue and the media content in the one of the plurality of media streams to the SPA of the specific affiliates.

2. (Previously Presented) The server of claim 1 wherein the private cue includes one of program timing, program structure, program identity, start time of a media program, and stop time of a media program.
3. (Original) The server of claim 1 wherein the stream processing application (SPA) is a program recording application.
4. (Original) The server of claim 1 wherein the stream processing application (SPA) is a program insertion application.
5. (Original) The server of claim 1 wherein the stream processing application (SPA) is a program modification application.
6. (Original) The server of claim 1 wherein the stream processing application (SPA) is a program adaptation application.
7. (Previously Presented) The server of claim 1 wherein the stream processing application (SPA) is a program switching application.

**PATENT**

Atty Docket No.: 10004571-1

App. Ser. No.: 09/734,996

8. (Previously Presented) The server of claim 1 wherein the private cue includes time sensitive program information.
9. (Previously Presented) The server of claim 1 wherein the private cue includes a cue type that is one of an event notification cue, an event pending cue, an event termination cue, and an event continuing cue, and a user-defined custom cue.
10. (Previously Presented) The server of claim 1 wherein the predefined structure of the private cue includes at least one of the following fields:
- an event type field for specifying an event type;
  - a cue type field for specifying a cue type;
  - a version field for specifying a cue command protocol version;
  - a number field for specifying a number that in combination with the event type specified by the event type field uniquely describes an event;
  - a duration field for specifying the time remaining before completion of a specified event;
  - a date field for specifying date information;
  - a time field for specifying time information;
  - a label byte count field for specifying the byte count in bytes of a subsequent variable-length text field; and
  - a variable-length label field for storing text suitable for display.

## PATENT

Atty Docket No.: 10004571-1

App. Ser. No.: 09/734,996

11. (Original) The server of claim 10 wherein the event type field is one of an advertisement event type, a video-frame event type, an interstice event type, an audio-track event type, an audio-segment event type, an video-segment event type cue, program-title event type, program-description event type, program-label event type, content-type event type, program-advisory, and riscr-defined event type.
12. (Original) The server of claim 10 wherein the date field includes data information encoded with a Society of Motion Picture and Television Engineer's (SMPTE) date encoding and wherein the time field includes time information encoded with a Society of Motion Picture and Television Engineer's (SMPTE) time encoding.
13. (Currently Amended) A method for delivering information associated with a media program in a media stream to a stream processing application (SPA) comprising:
- using a detector to identify an event in the media program of the media stream and generate an event detection signal;
- using a module to receive the event detection signal and generate a structural point detection signal in response to determining, based on configuration information, that the event detection signal indicates that the event is a structural point having significance to the media program;
- determining if the event is a structural point as defined by configuration information;
- using a cue generator for receiving the structural point detection signal and the configuration information and based thereon for generating a private cue packet to represent the structural point in response to determining that the event is a structural point, wherein the

**PATENT**

Atty Docket No.: 10004571-1

App. Ser. No.: 09/734,996

private cue packet is configured to be used by the stream processing application (SPA) of only specific affiliates to receive information concerning the event such that a third party ~~cannot be~~ does not interpret the private cue packet and;

embedding said private cue packet in said media stream with the media program to provide precise time synchronization for processing of the media stream by the SPA; and

transmitting said private cue packet and the media program in the media stream to the SPA of the specific affiliates.

14. (Currently Amended) The method of claim 13 wherein the step of generating a private cue packet to represent the structural point includes ~~one of~~ generating the private cue packet automatically; ~~and generating the private cue packet manually with a user-operated trigger.~~

15. (Previously Presented) The method of claim 13 further comprising:

receiving a packet;

determining whether the packet is a private cue packet;

when the packet is a private cue packet, then determining if the private cue packet triggers an action based on predetermined configuration parameters;

when the private cue packet triggers an action, using information from the private cue packet to perform a function;

otherwise, discarding the private cue packet.

**PATENT**

Atty Docket No.: 10004571-1

App. Ser. No.: 09/734,996

16. (Currently Amended) A content distribution network comprising:

a media server for broadcasting a media program in at least one media stream to a stream processing application (SPA) of specific affiliates, the media program having at least one structural point; and

a server-side cue handling mechanism for delivering program timing, structure, and identity information related to the media program in the at least one media stream in the form of a private cue, the server-side cue handling mechanism comprising a detector identifying an event in the media program and generating an event detection signal, a module receiving the event detection signal and generating a structural point detection signal in response to determining, based on configuration information, that the event detection signal indicates that the event is a structural point having significance to the media program, and a cue generator receiving the structural point detection signal and the configuration information and based thereon for generating a private cue having a predefined structure, wherein the private cue is embedded in the at least one media stream with the media program to provide precise time synchronization for processing of the at least one media stream by the SPA of the specific affiliates, and wherein the private cue is configured to be used by a stream processing application (SPA) of only the specific affiliates such that the private cue cannot be not interpreted by a third party other than the specific affiliates.

17. (Previously Presented) The network of claim 16 further comprising:

a client-side cue handling mechanism for receiving packets, determining that a particular packet is a private cue packet, and decoding program timing, structure, and identity information from the private cue packet.

**PATENT**

Atty Docket No.: 10004571-1

App. Ser. No.: 09/734,996

18. (Original) The network of claim 17 further comprising:  
an application coupled to the client-side cue handling mechanism for using the program timing, structure, and identity information of the media stream to perform an application function.
19. (Previously Presented) The network of claim 17 further comprising:  
an intermediary stream processing application for receiving the media stream that includes the private cue packet, processing the media stream, and re-transmitting the media stream to one of other intermediary stream processing application and a client-side cue handling mechanism.
20. (Previously Presented) The network of claim 19 wherein processing the media stream includes processing at least one private cue packet.
21. (Currently Amended) The network of claim 19 wherein re-transmitting the media stream to one of other intermediary stream processing application and receivers includes adding at least one private cue packet to the media stream.
22. (Previously Presented) The network of claim 19 wherein re-transmitting the media stream to one of other intermediary stream processing application and receivers includes removing at least one private cue packet from the media stream.

**PATENT**

Atty Docket No.: 10004571-1  
App. Ser. No.: 09/734,996

23. (Previously Presented) The server of claim 1 further comprising:  
a stream generator for generating said media streams.
24. (Previously Presented) The server of claim 1 wherein said cue generator is further operable to insert said generated private cue into a corresponding media stream to which said generated private cue relates.
25. (Previously Presented) The server of claim 1 wherein said private cue is generated as a Real-Time Transport Protocol (RTP) payload.
26. (Previously Presented) The network of claim 17 further comprising:  
a server-side stream generator for generating said at least one media stream, wherein said cue handling mechanism inserts said private cue packet in the at least one media stream.
27. (Previously Presented) The network of claim 26 further comprising:  
a server-side network interface for communicating said at least one media stream having said private cue packet inserted therein across a communication network to at least one client.
28. (Previously Presented) The network of claim 27 wherein said network interface broadcasts said at least one media stream having said private cue packet inserted therein to a plurality of clients.



## PATENT

Atty Docket No.: 10004571-1  
App. Ser. No.: 09/734,996

29. (Currently Amended) A method comprising:

generating a media stream containing a media program at a stream generator of a media server;

using a detector to identify an event in the media stream and generate an event detection signal;

using a module to receive the event detection signal and generate a structural point detection signal in response to determining, based on configuration information, that the event detection signal indicates that the event is a structural point having significance to the media program~~determining if the event is a structural point as defined by configuration information;~~

using a cue generator for receiving the structural point detection signal and the configuration information and based thereon for generating, at a cue handling mechanism of the media server, a private cue packet to represent the structural point in response to determining that the event is a structural point, wherein the private cue packet is configured to be used by a stream processing application (SPA) of only specific client receivers to receive information concerning the structural point such that the private cue packet cannot be interpreted by a third party;

embedding said private cue packet in said media stream with the media program; and communicating said media stream and said private cue packet from said media server to at least one intermediary network node;

said at least one intermediary network node modifying, based at least in part on said private cue packet, said media stream to generate a modified media stream; and

**PATENT**

Atty Docket No.: 10004571-1

App. Ser. No.: 09/734,996

said at least one intermediary network node communicating said modified media stream to at least one of the specific client receivers.

30. (Previously Presented) The method of claim 29 further comprising:

said at least one client receiver processing said modified media stream to generate output to an end user.

31. (Canceled).

32. (Previously Presented) The method of claim 29 wherein said modifying comprises:

adding at least one cue packet to the media stream.

33. (Previously Presented) The method of claim 29 wherein said modifying comprises:

removing said private cue packet from the media stream.

34. (Previously Presented) The method of claim 29 wherein said modifying comprises:

inserting a second media stream into said media stream.

35. (Previously Presented) The method of claim 34 wherein said second media stream

comprises at least one advertisement.

36. (Previously Presented) The method of claim 29 wherein said media stream and said

private cue packet are communicated from said media server to a plurality of different

**PATENT**

Atty Docket No.: 10004571-1

App. Scr. No.: 09/734,996

intermediary network nodes, wherein each of said different intermediary network nodes comprises respective target client receivers to whom it communicates modified media stream generated thereby.

37. (Previously Presented) The method of claim 36 comprising:

generating, by a first of said intermediary network nodes, a first modified media stream; and

generating, by a second of said intermediary network nodes, a different modified media stream.